

RIVERWAYS

Newsletter

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A Publication of the Riverways Program

Department of Fisheries, Wildlife & Environmental Law Enforcement, David M. Peters, *Commissioner*

Executive Office of Environmental Affairs, Bob Durand, *Secretary* • Argeo Paul Cellucci, *Governor*

River Restore Program Underway

On October 20, 1999, Environmental Affairs Secretary Bob Durand and DFWELE Commissioner David Peters formally launched the River Restore Program against a backdrop of the Concord River rapids at the site of the previously breached Middlesex Dam. They were joined by the U.S. Fish and Wildlife Service, who outlined their plans to restore alewives and American Shad to the Concord River.

River Restore, under the direction of Riverways' Karen Peltó, is dedicated to reconnecting natural and cultural river communities by selective removal of dams and other obstructions. By building interagency communication and cooperation and a network of services for communities and others, River Restore will seek ecological restoration while respecting concerns for public safety and historic preservation.

River Restore is not a campaign to remove all dams. There are dams that may be serving a purpose that should be preserved. But many dams are no longer serving their original purpose and/or are no longer able to contain and pass storm flows safely. The cost of removing these dams is often less than repairing them.

Two major components of the River Restore Program include the Dam Decommissioning Task Force and the Triage Team. The Task Force, convened by Secretary Durand in July, is comprised of state and federal regulatory and management agency staff who provide oversight to two pilot projects. The two pilot projects involve decommissioning and removing two dams; one on the Housatonic River, and one on Town Brook in Plymouth.

Dam Decommissioning Task Force

On September 9th, Secretary Durand issued the first Massachusetts Environmental Policy Act (MEPA) Certificate to a dam decommissioning project, Crane and Company's proposed breaching of the "Old Berkshire Dam" on the east branch of the Housatonic River. In addition, Secretary Durand directed the Task Force to develop

"a set of criteria for use in judging which dam removal projects might qualify for an EIR [Environmental Impact Report] waiver."

On October 5th, the Task Force met on the site of the second pilot project, the Town of Plymouth's proposed removal of the "Billington Street Dam" on the Town Brook. Combined with a fishway repair downstream, this project will provide the important alewife fishery with access to its 250+ acre spawning grounds in Billington Sea.

We are fortunate to have two pilot projects where dam ownership is clear; this is not always the case. As responsible stewards, both Crane and Company and the Town of Plymouth have allocated monies toward the study and removal of their dams.

The Town of Plymouth is also receiving additional funds through the Fish America Foundation (administered through the National Marine Fisheries Service), National Fish and Wildlife Foundation, Coastal Zone Management, and Massachusetts Division

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June is Rivers 2000 Month

Start planning now ... in the year to come Massachusetts river enthusiasts can join our counterparts across the nation to celebrate rivers, large and small in the first year of the next century. The Riverways Program, along with the Executive Office of Environmental Affairs will take the lead in promoting Rivers 2000 activities. We see this as a wonderful opportunity to strengthen and expand river partnerships. It is a time for watershed associations and environmental groups to reach out to new constituents, engage with them in river activities and enlist them as new members.

Rivers 2000 includes what is happening on your river and asks you to . . .

- Join Governor Cellucci, Lt. Governor Swift and Secretary Durand in the kickoff of Rivers 2000 in Massachusetts.
- Pass the Paddle through Massachusetts linking to river advocates in all 50 states and Canada - Help us plan the route.
- Take a Source to the Sea Canoe Trip - Plan

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During Hurricane Floyd, over six inches of rain swelled the Falls River causing this dam in Bernardston to breach. This river reach will now provide habitat for Atlantic Salmon. Photo by Karen Peltó

Community preservation ... biodiversity ... buildout scenarios ... habitat surveys ... priorities for land protection ... ecosystem assessments strategies for managing growth ... watershed partnerships ... restoration ecology ... urban sprawl ... natural communities.

How do these all fit together? Do they give us the steps that will change development patterns and keep our urban, suburban and rural communities livable even as they grow?

Recognizing that every town or city in the state has special places that should be identified and preserved, the Executive Office of Environmental Affairs has funded several comprehensive projects under the Watershed Initiative and Planning for Growth grants that foster watershed protection combined with planning for development that will address natural resource use, management and protection. In 1998, two-year "Communities Connected by Water" grants went to municipalities and the watershed associations in the **Ipswich** and **Nashua** River watersheds. In 1999, similar grants were awarded to support collaborations in the **Ten Mile**, **Housatonic** and **Hoosic** River watersheds.

The Nashua River Watershed Association and the Devens-area communities of Harvard, Ayer, Lancaster and Shirley put together matching funds and in-kind services of over \$600,000 for two years of work. The first step in achieving one of the goals on planning for growth and land protection was to hire the consulting firm of ENSR to spend six months collecting data and developing an assessment of local conditions. Another beginning project was to develop protocols for setting priorities for land protection and acquisition.

This past spring, Secretary Durand and staff of the Executive Office of Environmental Affairs held three breakfast meetings for legislators and community leaders from the fifty-one towns and cities in southeastern Massachusetts. At these meetings, "build out" maps showing how municipalities would look should they be developed to their fullest under current zoning were presented to legislators, business leaders, and town officials from the surrounding watershed area.

The maps help to underscore the need for managing growth and directing it to areas where it will have the least impact on special places and natural resources. Similar meetings were held in Pittsfield and Springfield and more are planned for this fall in towns in the northeast and in the suburban ring west of Boston, starting with Framingham and Shrewsbury. Build-out analyses are expected to be completed for 150 cities and towns by July of 2000 and for all 351 municipalities by July of 2001.

Towns often don't know the location of important natural resources to steer development away from, however. Many don't have the capacity to hire a consulting firm to assess present conditions. Despite the Rivers Protection Act being in place, even easily recognized rivers, streams and other waterbodies and adjacent lands are not understood as highly rich in plant, insect and animal diversity. Towns, land trusts, watershed teams and agencies are all looking for ways to delineate important natural communities and habitats, locate wildlife travel corridors, and identify special plant and animal species needing protection.

This past June, the Massachusetts Watershed Initiative Teams were funded to complete thirty-two projects for inventorying, protecting and restoring habitats across the state. These include:

- projects in the **Sudbury/Assabet/Concord** River valleys and the **Nashua** River watershed to identify which habitat areas are top priority for protection and restoration and to develop and implement a strategy to provide local stewardship and protection;
- projects that will lead to better understanding of instream flow issues in tributaries and mainstem sections of the **Merrimack** River, the **Mystic** River, the **Neponset** River, the **Connecticut** River, and the **Ipswich** River;
- projects to increase public understanding and watershed association collaboration with state agencies on preservation of alewife habitat in the **Parker** River watershed, restoration of salmon runs in the **Westfield** River watershed, and improvement of scallop habitat on the **Islands**.

Research in the Field

All of these projects highlight the need for survey protocols, training, staff and volunteers, technical assistance from field and aquatic biologists, and data verification and mapping. Also needed is a process for setting priorities for management and protection and templates for conservation action plans. In hopes that we can learn from each others' experiences, we list below a few of the studies, inventories, surveys, and habitat protection plans, some watershed-based and some statewide, that are recently completed or in the process of development:

~ The Massachusetts Department of Environmental Protection (DEP)'s Drinking Water Program is currently engaged in a statewide Source Water Assessment Pro-

gram (SWAP) as mandated by the federal Safe Drinking Water Act. The SWAP seeks to identify the areas of land and/or water contributing source water to public water supply (interpreted broadly to include small systems serving an apartment complex, mobile home park, etc.) withdrawal points (wells, reservoir/river intakes, etc.).

The SWAP will then categorize the various land uses within these contributing areas, rate each land use according to the possible risk it may pose to contaminating the public water supply, and then issue recommendations to communities and public water suppliers on how to protect water supplies from contamination. Cities and towns may want to steer potentially polluting land uses away from areas contributing source water to public water supplies. As these contributing areas frequently cross town boundaries, regional cooperation is essential. Contact Kathy Romero at (617) 292-5727 for more information.

~ The Biodiversity Protection Strategy of the Natural Heritage and Endangered Species Program (NH&ESP) at the Division of Fisheries & Wildlife is presently focusing on intensive surveys of the structure and functions of natural communities and ecosystems on state lands. This is coupled with education about conservation of uncommon and under-protected components of biodiversity as well as ecological restoration and management of upland habitats. Much of this effort is based upon recommendations contained in *Our Replaceable Heritage: Protecting Biodiversity in Massachusetts* (more about this in the next article). Contact Henry Woolsey at the NH&ESP [(508) 792-7270 ext. 162] for more info.

~ The Executive Office of Environmental Affairs (EOEA) is working with the NH&ESP, the Manomet Center for Conservation Sciences and the Watershed Teams in **southeastern Massachusetts** to complete ecosystem assessments and protection plans for that region. These should serve as models for the other watersheds across the state. Contact Manomet at (508) 224-6521 or <<http://www.manomet.org>> for more information.

~ A complementary project of the Natural Resources Conservation Department (formerly the Forestry & Wildlife Department) at UMass Amherst is being supported by EOEA to develop an ecological framework for regional and local groups to use in developing consensus on habitat protection strategies. This will focus on the **Housatonic**

River valley communities in the southern Berkshires. Contact Scott Jackson at UMass Cooperative Extension at (413) 545-4743 for more information.

❧ The **Taunton River Corridor Natural Resources Inventory and Conservation Plan** prepared for the Taunton River Stewardship Program by the Wildlands Trust of Southeastern Massachusetts provides an ecological basis for land protection along the Taunton River in Plymouth and Bristol counties. Contact Mark Primack at the Wildlands Trust at (781) 934-9018 for more information.

❧ The Woods Hole Marine Biological Laboratory (MBL) research on the Plum Island Sound watersheds will soon link an electronic library of information to environmental sensors in the **Parker** and **Ipswich** River watersheds which may make it possible to access the current conditions of these selected watershed areas. Contact Hap Garritt at the MBL at <hgarritt@mbi.edu> for more information.

❧ The Massachusetts Resources Identification Project at MA Geographic Information Services (Mass.GIS) has developed a screening and decision-making tool to assist groups who want to use GIS data layers to guide natural resources protection planning. Contact Mark Goodwin at 617-727- 5229 for more information.

❧ The Massachusetts Audubon Society has a new Ecological Extension service that can provide consultations to organizations involved in land protection on natural communities mapping and planning, land acquisition prioritizing, wildlife corridor protection, species resource (soil/plant) protection, land management and usage strategies and trail interpretation. Mass Audubon also has data from butterfly, herp and shorebird inventories and other site specific research projects. Contact Jeffrey Collins at (781) 259-9506 x7408 for more information.

❧ The Trustees of Reservations has produced a statewide land protection vision based in part upon an assessment of important but under-protected natural communities (more about this in the next article). Contact Chris Rodstrom at 978-524-1874 for more information.

❧ The Nature Conservancy (TNC) is completing its habitat study of southern New England as part of a national classification system. Contact TNC at (617) 542-1908 for more information (Leslie Sneddon, ext. 245, for plant communities; Larry Master, ext. 230, for animals).

Guidance for Volunteers

A number of training manuals and opportunities exist for volunteers wanting to get

involved surveying and studying local resources:

❧ The Wetland Health Assessment Toolbox is a multi-metric technique for volunteers to assist the Coastal Zone Management and the Mass. Bays Program in ongoing coastal wetland research on Cape Cod and the North Shore. For more information, contact Jan Smith at Mass. Bays at (617) 626-1231. On a similar note, the EOEA Wetlands Restoration and Banking Program is conducting wetlands assessments in the **Neponset**, **Shawsheen**, **Paskamanset** (Buzzards Bay), Upper **Ipswich**, **Otter** (Millers), Upper **Blackstone**, and the **Connecticut** watersheds. Contact Christy Foote-Smith at (617) 292-5991 for more information.

❧ The new Appalachian Mountain Club program, Riverwatchers, asks canoeists to report on what they see in their travels on rivers in the northeast. They are encouraged to look for threats to river health and attractiveness as well as "hidden jewels" that may need protective action. Contact Peter Donahue at (617) 523-0636 ext. 314 for more information.

❧ The Riverways Adopt-A-Stream Shoreline Surveys engage landowners, volunteers, municipal officials, and river advocates in identifying assets and threats to rivers and streams and making action plans that will address the problems. Stream Teams work with watershed teams and municipalities to implement projects to improve habitat across the state. Contact Joan Kimball at (617) 626-1544 or <joan.kimball@state.ma.us> for more information.

❧ Marsh surveys being conducted by volunteers in the **Deerfield** River watershed are a prototype for use elsewhere. Contact Pat Sorrentino at (413) 772-0520 for more information.

❧ The Biodiversity Assessment Manual for the **Hudson River Corridor** will be completed by Hudsonia this fall and published in March of 2000. It will assist conservationists, planners, land managers, educators, citizen activists, agency and organizational staff, naturalists and others in assessing special habitats and rare species on sites proposed for development or preservation. Contact Melissa Everett at Hudsonia at (914) 758-7053 for more information.

❧ The Citizens' Guide to Protecting Biological Diversity and Ecosystems is being developed at EOEA for use in Biodiversity Days in many towns across the state next spring. Contact Sharon McGregor at (617) 626-1150 for more information.

❧ The Vernal Pool Natural History Guidebook will be available from EOEA in the spring. Volunteers in southeastern Mass

towns verify pool locations and identify additional sites. Contact Jack Buckley at (617) 626-1572 for more information.

❧ Guidelines for citizen monitoring of water quality and macroinvertebrates – "the tiny creatures which decompose organic matter, move nutrients from one form to another, break down toxins into non-toxic molecules, clean the water, and themselves become food for each other and larger organisms" – are available from the Mass WaterWatch Partnership. EOEA agencies are working closely with the MWWP and the Watershed Teams in the formation of a regional service provider network for citizen monitors.

EOEA and the Massachusetts Environmental Trust have given support to several groups who are providing training and assistance to volunteer monitors in eastern Massachusetts, including Waquoit Bay National Estuarine Reserve (WBNERR) for Buzzards Bay and Cape Cod, the Urban Harbors Institute at UMass Boston for southeastern Mass, the Charles River Watershed Association for the greater Boston area, and the Volunteer Environmental Monitoring Network (VEMN) at the Merrimack River Watershed Council for northeastern Mass. Contact Jerry Schoen at MWWP, (413) 545-5532, for more information.

Much of the above, as well as over 700 other statewide and watershed-specific studies and reports, is now indexed in EOEA's new **Watershed Clearinghouse** database. Originally created to help link EOEA Watershed Teams to sources of watershed and resource-based information, the Watershed Clearinghouse will eventually be accessible to the public through the EOEA Watershed Initiative Web page. For more information, contact Jamie Hellen at (617) 626-1054.

Interest and expertise is presently available for all of us to learn more about our natural surroundings. How we integrate what is known with planning for the future development and preservation of our communities is still a major challenge...as is how we decide what further information is needed and how to get it.

Pat Swain, Plant Community Ecologist with the Mass. Natural Heritage & Endangered Species Program, says in the recent special issue on Biodiversity & Its Management in **MASSACHUSETTS WILDLIFE** magazine, "Documenting current conditions and the relative abundance of species is important for learning from our current restoration efforts, planning the next steps and leaving our successors (and theirs) with a basis for future management and action. The time

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Habitat, cont. from pg.3

scale of environmental change is seldom at the scale of a human life, and we need to be sensitive to the long term effects of what we do."

The Riverways Program will continue to serve as a clearinghouse for sharing information about studies, surveys, tools and

restoration and protection strategies. Please let us know what is useful and what is not. We will post information on our Riverways web site (www.state.ma.us/dfwele/river/riv_toc.htm.) and in our Riverways Newsletter. For additional assistance, contact Rachel Calabro at (617) 626-1549 or Russ Cohen at (617) 626-1543. ●

Now that we have a Rivers Protection Act, why do we still need to acquire riverfront property?

Passage of the Rivers Protection Act several years ago has given a tremendous boost to riparian land protection in Massachusetts. Since the Act went into effect, most developers of previously undeveloped lands near rivers and streams covered by the Act have retained a minimum 100-foot-wide area of undisturbed vegetation along the nearby waterway(s). Many developers have laudably chosen to stay out of the 200-foot-wide Riverfront area resource area entirely. Thanks to the Rivers Act, subsequent development near rivers has had a much less adverse impact on riparian area functions and values than would have otherwise been the case.

Nevertheless, passage of the Rivers Act cannot in and of itself safeguard all riparian land worthy and needful of protection. There continues to be an important need for river-

ine land protection via direct acquisition of "fee simple" (complete ownership), conservation restriction or other nonregulatory means. There are several reasons for this.

Many functions of riparian areas, such as wildlife habitat, flood control and water supply protection, often extend beyond the Act's 25-200 foot limit. Studies have shown, for example, that many songbird species, warblers and other neotropical migrants in particular, require undisturbed forested riparian corridor widths of 300 feet or more for successful feeding, breeding and protection from predators. In addition, the Rivers Protection Act's regulatory nature makes it of relatively limited value in addressing problems requiring a proactive response, such as an effort to control invasive exotic plant species in riparian areas.

Direct acquisition of riverine land is also warranted where the values sought to be safeguarded do not fall under the purview of the Rivers Protection Act. For example: as rivers served as a primary means of transportation and sustenance for many centuries before and even after the arrival of Europeans to the North American continent, it is not surprising to learn that riparian lands are often rich in archeological significance. Since scenic, cultural and archaeological values are not enumerated as protectible interests under the Rivers Act, however, direct fee simple or easement acquisition of such sites, combined with careful stewardship, continues to be the most secure approach to safeguard such values on riverfront properties.

Recreational enthusiasts hold rivers and streams in high regard for paddling, fishing and even swimming, all of which are significantly enhanced by the improvements in water quality and scenic vegetated riparian landscapes the Rivers Protection Act will help ensure. The Act's establishment of a new resource area subject to regulation under the Wetlands Protection Act does not in and of itself establish any rights of public access over privately held land within riverfront areas. (Recent U.S. Supreme Court decisions, such as *Dolan v. Tigard*, place limits on the government's ability to exact easements for public access over private land through regulatory means.)

Any new rights of access across land along rivers and streams for fishing, hiking, etc. must be negotiated with individual landowners on a case-by-case basis. (In the meantime, of course, the Act will help to steer new development away from the rivers' edge and keep the opportunity open for establishing additional public access through purchase or other nonregulatory means at a future date.)

In recognition of this fact, two recently issued reports have highlighted the need for additional riparian land protection in Massachusetts. *Our Irreplaceable Heritage*, jointly produced by the Massachusetts Chapter of The Nature Conservancy and the Natural Heritage and Endangered Species Program (NH&ESP, part of the Mass. Division of Fisheries and Wildlife), identified riverine communities as among the most ecologically significant and threatened habitats in the state. [Copies of this document can be obtained from the NH&ESP while supplies last by calling (508) 792-7270 ext. 200; see esp. the text at pp. 51-55.]

In addition, *Conserving Our Common Wealth: A Vision for the Massachusetts Landscape*, recently issued by the Land Conservation Center of The Trustees of Reservations [TTOR, (978) 921-1944, <<http://www.thetrustees.org>>] contains a number



Codding Meadows, along Lawrence Brook in Royalston, MA. This riparian land has been protected by The Trustees of Reservations. Photo by Russ Cohen

of specific recommendations for river systems needing and deserving additional land protection (to safeguard their scenic, cultural and recreational as well as biodiversity values) by TTOR and/or others. We thought we'd share these with you, sorted into seven regions, as presented in the TTOR report:

The Greater Boston area: Additions to, and connections between, existing protected open spaces along the **Charles** and **Neponset** River Greenways;

Southeast Massachusetts: Lands along the upper **Charles** River and its tributaries as well as properties that protect the quantity and quality of water throughout the entire watershed; scenic and ecological lands along river banks, with an emphasis on the **North** River and **Buzzards Bay** watersheds; river banks along the upper **Taunton** River and its tributaries;

Northeast Massachusetts: Natural habitats and scenic qualities of the Great Marsh [includes the lower portions of the **Parker**, **Ipswich**, **Rowley**, and **Essex** Rivers];

Central Massachusetts: River frontage in the **Quaboag** River and upper **Nashua** River watersheds; land along relatively pristine shorelines which offer opportunities for fishing, paddling and sailing;

Connecticut River Valley: Natural habitats along the **Connecticut** River, its tributaries, and surrounding uplands;

Western Massachusetts: Lands with unique limestone geology in the **Housatonic** River watershed; forestlands and farmlands in the upper **Deerfield** River watershed;

Cape Cod and the Islands: Protect the integrity and enhance the significance of already protected landscapes by preserving connections between them [such as what

TTOR has done along the **Mashpee** River corridor].

A number of state agencies (DEM and MDC as well as DFWLE) as well as local, regional and national land conservation organizations are actively engaged in riparian land protection. If you own or know of land adjacent to a river or stream that you would like to see protected but are unsure how to go about it, an extremely useful document to have on hand is *Land Conservation Options: A Guide for Massachusetts Landowners* (reviewed in the last Riverways newsletter). Copies are available from TTOR by calling (978) 524-1869. You are also welcome to contact Russ Cohen at Riverways [617-626-1543 or russ.cohen@state.ma.us] for advice on possible sources of agency and/or nonprofit technical and/or financial support for your riparian land protection effort.

Watershed Planning: Evolution or Destiny?

Have you noticed how public awareness and federal involvement in watershed planning has evolved over the past several decades? Our Summer Newsletter provided an historical account of how local residents who opposed the building of dams on the west branch of the Westfield River about 30 years ago became pioneers and advocates for their river. At that time, citizens were just beginning to become involved in the watershed planning process, and thanks to their fortitude, the Westfield River not only qualified, but also became the first Wild and Scenic River in Massachusetts.

Just as public participation has changed with time, so has the level and focus of federal involvement in watershed planning activities. As early as 1954, Congress recognized the needs of watersheds by enacting Public Law 83-566, which authorized the building of flood prevention structures and land treatment measures to protect communities. It became the responsibility of the town government, together with a state agency and a local conservation district, to request watershed planning assistance. These requests were received by the Soil Conservation Service (SCS)—the federal agency with the technical expertise to plan the watershed work, design any necessary structures and carry out construction.

In response, SCS assisted with nine comprehensive watershed projects throughout

Massachusetts, and the communities within these watersheds reaped the economic benefits—an average of more than \$5 million per year for flood damage reduction, water supply, fish and wildlife and recreational areas.

While SCS evolved into the Natural Resources Conservation Service (NRCS), the agency's watershed planning ability also modernized. "The building of dams, channels and floodwalls is part of our watershed history; but we've progressed vastly since then," NRCS State Conservation Engineer Carl Gustafson said. "Today we are seeing more community involvement and our watershed operations involve a broader analysis of the environment; compared to years ago when we were more narrowly focused. For instance, we now promote flood-proofing and the removal of structures from the floodplains."

The modern-day NRCS is lending its technical expertise to many community-based and state-led efforts including:

- helping state and marine fisheries improve spawning and upstream passage for fish;
- joining hands with citizens and partners to advance the Urban Rivers program at Riverways and the Pure Water Stewardship Project in Worcester County through the Massachusetts Watershed Coalition, which

promotes the community protection of drinking water through land management and planning;

- providing assistance with stormwater management and pollution prevention for shellfish beds;
- restoring salt marshes and inland wetlands; and
- creating riparian forest buffers.

Riverways is fortunate to have the NRCS as a partner in river conservation efforts. Along with supporting the Urban Rivers Program, the NRCS has given support to the Adopt-A-Stream Program through site visits and field assistance to Stream Teams. Ron Thompson from Holden participated in the River Advocates Forum, leading a field trip with Rachel Calabro on Kendrick Brook in Worcester.

NRCS staff formed Stream Teams on site visits in the Ipswich, Merrimack, Neponset and Blackstone River Watersheds. During this past year, Dan Lenthall from the NRCS northeast region offered advice and help with remediation options on Fish Brook in Boxford and Bare Meadow Brook in Methuen. Riverways is currently working with the NRCS to develop habitat survey tools for use in tertiary watersheds across Massachusetts.

Adopt a Stream

Program Update

Conservation Commissions Share their Stories: Working with Stream Teams, Watershed Associations and the Watershed Initiative

Conservation Commission support is a key ingredient in Stream Team's successful river projects. Stream Teams — local residents, businesses, civic and environmental groups, and town officials — are working to protect local streams by conducting Shoreline Surveys and creating and implementing Action Plans. Conservation Commissions and Stream Teams have forged partnerships in 22 watersheds in Massachusetts. How is it working? Conservation Commission members and staff share some of their insights in answer to the following questions:

(1) How can Stream Teams and Conservation Commissions work together?

Shep Evans of Stockbridge says that there is great commonality of interest as well as shared benefits for both groups. Shep is in the unusual position of being both a long time member and chair of the Stockbridge Conservation Commission, a MACC board member and in charge of creating ten Stream Teams over the next two years for the Housatonic Valley Association. Watershed Associations have found forming Stream Teams to be an excellent way to involve local citizens in stream protection.

Shep believes that Stream Teams can serve Conservation Commissions as eyes and ears along rivers, streams and wetlands. Commissions often don't have time to do this themselves. Stream Teams present a terrific opportunity for protection of natural resources when they do on-the-ground surveys and share their results with the Commission.

Before each Stream Team gets started, Shep creates a steering committee to plan the Shoreline Survey and invites a Conservation Commission member to participate. He wants to ensure that there is a knowledgeable local person who knows what is going to happen in town.

Conservation Commissions can do a lot for Stream Teams as well. Shep believes that because "Commissions have lines of communication and access to resources, they know how to approach each town board and staff. They know who to call first and how to raise issues. Commissions can provide 'in-

formal helpfulness,' and because of their regulatory role, they can remediate problems found during Shoreline Surveys."

(2) Do Stream Teams help the work of Conservation Commissions?

At a recent meeting, a Commissioner pointed out that through the enabling act, Commissions were established for the promotion of natural resources and for the protection of watershed resources of each city or town. The act states that Commissions shall conduct research into local land areas and shall seek to '*coordinate the activities of unofficial bodies organized for similar purposes....*' Stream Team work fits right in to the purposes of this act.

Debbie Dineen, Agent, Sudbury Conservation Commission, has seen long-term benefits to the brook and to the Commission from the Hop Brook Shoreline Survey.

Four years ago, the Sudbury Conservation Commission agreed to support a Shoreline Survey effort by the Hop Brook Protection Association. The Adopt-A-Stream/Riverways program supported the Association in their work by sharing the Adopt-A-Stream process: supplying leadership manuals, leading a training workshop and facilitating the Action Planning workshop. Debbie saw this volunteer effort as being a way that the Commission, without a large staff, could learn about the stream and its natural resources.

A steering committee met with Debbie to plan the survey, and the Commission provided maps, lists of abutters and postage for mailings. Adopt-A-Stream provided the interactive slide show training workshop, and Debbie provided local knowledge. She asked that the Shoreline Surveyors pay special attention to the condition of pipes and share this information with the Commission.

Following the Survey, the volunteers created an action plan based on their data. Their observations became the basis for short term and long term action projects. Volunteers from the Survey worked with Debbie to draw up a management plan for Hop Brook.

Debbie describes the effort by saying, "We had 70 volunteers who were educated first

hand about nonpoint source pollution and they educated others. They learned about the Commission's role and were there to support our work. They helped on stewardship projects on conservation land, wrote supporting letters for grants, and gave us information about the stream."

Shoreline Surveyors identified asphalt trucks on the local DPW site as a major threat to Hop Brook. Debbie said, "They were appalled that the town had control over a parcel and was the greatest offender along the brook. Having these 70 citizens push the DPW to change their practices is much more effective than using a staff person for the Commission." After a newspaper article described this threat, the DPW and the Commission worked together to move the trucks.

As a follow up to the Shoreline Survey findings, the Sudbury Conservation Commission received a grant from Crossroads Community Foundation to pull back the

What's New: View Shoreline Surveys on our New Interactive Web Page

Riverways' Adopt-A-Stream now has a web site showcasing the work of Stream Teams around the state. This site will link Stream Teams to one another and allow them to quickly share information. It will also allow Watershed Teams and Associations as well as legislators, citizens and potential Stream Team members to see work that has been done, and areas that have been covered.

The web page uses interactive maps to highlight where Shoreline Surveys have been completed, and what the results have been. The page also includes links and a resources section for Stream Teams. The address is www.state.ma.us/dfwele/river/rivAAS_toc.htm and can also be reached through the Riverways' web page.

Soon to be available on the web page are fact sheets on topics such as: *Clean-ups, Snags, Working with School Groups, Outreach, Hydrographs and Low Flow*. We encourage Stream Teams to send us regular updates of ongoing projects and successes.

To keep Stream Teams informed on news and developments in our program, other opportunities and current issues, we mailed the first issue of our newsletter, *Stream Advocate*, to groups this fall. Anyone who has not received the *Stream Advocate* and would like a copy, please give us a call or drop Amy an email at Amy.Singler@state.ma.us.

Highway Department activities a minimum of 50 feet from the bank. They partnered with the town DPW Director who worked enthusiastically to create a 4-foot high earthen berm on which they planted 60 native white pines to provide a physical and visual barrier between the DPW activities and a new nature path along the brook. A small gravel parking lot was created to allow the public to gain access to the new nature trail. The Commission is now working with the DPW to redesign the drainage from the DPW site.

The enthusiasm of the 70 volunteers gave the Commission the impetus to go beyond the regulatory work of the Wetlands Protection Act and to work to increase public benefits.

The enthusiasm of the 70 volunteers gave the Commission the impetus to go beyond the regulatory work of the Wetlands Protection Act and to work to increase public benefits. The Shoreline Survey Action Plan does not sit on the shelf – the volunteers continue to ask “in the grocery store” questions such as “was that erosion off Surrey Lane ever fixed?” A year after the Shoreline Survey, the commission got a grant from DEM Lakes and Ponds to retrofit 18 storm drains with grease and gasoline traps and sumps, and the Commission is still acting on the long-range action plan.

Other successful outcomes of the Shoreline Survey include:

The Commission is once again walking the length of Hop Brook; this time working with landowners to voluntarily create a buffer along the brook.

The Commission has created a new Conservation Restriction of approximately five acres along the brook in the business district along with a new wetland restoration plan.

There are four businesses putting in grease and gasoline traps, sumps and catch ba-

sins. The businesses have created buffers with native species providing wildlife value and placed the area under a permanent “no disturb area.”

(3) What is the right amount of involvement for Commissions?

Almost everyone agrees that attending steering committee meetings and participating in the Action Planning Meeting is essential. These meetings are often convened by the regional Watershed Association that is working with local people to form a Stream Team. Participating in the Shoreline Survey itself is fun and gives the Commission an opportunity to be out in the field other than on a site visit.

(4) How do Stream Teams link to the Watershed Initiative?

The Watershed Initiative is a partnership between state agencies and communities to find effective solutions to today’s environmental problems. Because local leaders and citizens play a large role in environmental protection, they need to be key players in the Watershed Initiative. Creators of the Watershed Initiative see Stream Teams as a critical component ensuring that the Watershed Initiative continues to be “bottoms up.”

This collaboration has worked well in many places. The Action Plans of Stream Teams in the Shawsheen and Neponset River watersheds were incorporated into the Watershed Team’s Watershed Plans. Also, Watershed Team Leaders serve as excellent contacts for Stream Teams. According to Daniele Lantagne of the Ipswich River Watershed Association, “Team Leader Rich Tomczyk has helped us network with state agencies when we have questions on issues such as 21E sites and has given us suggestions for grant opportunities for Stream Teams.”

As the Adopt-A-Stream program has grown, we see that Stream Teams can be an integral part of local environmental protection as well as part of the Watershed Initiative.

[This article was recently published in the newsletter of the Massachusetts Association of Conservation Commissions, 10 Juniper Rd., Belmont MA 02478, (617) 489-3930]

Summer Drought Parches Local Streams

This summer was one of the driest on record for many parts of Massachusetts and New England, with seventy percent of New England streams recording below normal flows. Although this was not an officially declared drought, record lows for daily and monthly streamflow were set all across the state, and wells dried up in several places. Many municipalities enforced emergency outdoor water bans, and the Town of Swansea was forced to halt all development by canceling new town water hook-ups.

Stream Teams reported seeing rivers dry in several places. SWAMP, a Southborough Stream Team, documented the dry Sudbury River on several occasions. In August and early September, a section of the river in Southborough was dry for two separate periods, about 16 days in total. In the Neponset River watershed, while the mainstem had some flow throughout the summer, several tributaries were dry across the watershed. Upper reaches of the Neponset River were close to dry and the East Branch tributaries

were dry on and off.

The Charles River has also been suffering the lowest flows recorded for this period since the USGS began collecting data at the Dover gage in 1937. Flow in the Charles was less than one-fifth its normal flow. The Ipswich River, which has become the focus of much attention about low flows, had the driest August on record at the South Middleton gage where the August mean streamflow record was cut nearly in half.

Is This a Trend?

With the tropical rains of September, drought may have been quickly forgotten as rivers flowed and dams were breached. We were spared heavy flooding by several small rain events that soaked the ground before the heavy rains of Hurricane Floyd. Floods often follow drought because the ground is dry and is not able to absorb water quickly.

The U.S. Geological Survey recently looked at Massachusetts streamflow records over the last six decades and found a general

pattern over time of higher high flows and lower low flows. This is believed to be attributable to increasing levels of watershed imperviousness caused by the conversion of farmland and forests to roads, buildings and other development. The same pavement, roofs and other impervious surfaces that cause precipitation to run off quickly and exacerbate flooding during storm events, prevent infiltration to groundwater, a critical source of streamflow during dry periods, thereby increasing the frequency, duration and severity of low-water conditions in rivers and streams.

In addition, a trend toward more extreme weather patterns in general may also be partially to blame. Human-induced changes to the global climate seem to be making extreme weather events the norm rather than the exception. We may have altered the water cycle to the point where we have largely lost the temperate nature of our climate and may find ourselves increasingly

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vulnerable to wider swings back and forth between excessively wet and dry periods.

Daniele Lantagne of the Ipswich River Watershed Association has seen the Ipswich River dry up in 1995, '97, and '99. She said that recent low-flow events are due to a combination of low rainfall and increased water withdrawals over the past several years. She has witnessed both fish kills and kills of macroinvertebrates such as mussels and insects.

Insects are the base of the aquatic food chain, and when they die off during a drought, it affects the whole ecosystem. Fish are often trapped in smaller and smaller pools where water becomes warm and shallow. These fish die if they are isolated in pools that dry up, or are cut off from the rest of the river's flow. Habitat is also affected when the river recedes from its overhanging and vegetated banks, which provide shelter and food, and serve to moderate water temperature.



Dry streambed of the Sudbury River below the Fruit Street Bridge, August 12, 1999. Photo by Joan Kimball

The missing connection

Ecosystems are designed to handle these natural weather extremes by replenishing water to streams and rivers through groundwater baseflow and wetland storage. As we increase groundwater withdrawals and cut off rivers from their groundwater supply, these systems are less able to handle changes.

Rivers naturally have "gaining" reaches, where groundwater flows into the river adding flow, and "losing" reaches, where water infiltrates from the river into the ground. As the amount of rainfall decreases or as groundwater withdrawals increase, the water table drops, and more water is lost from the river, causing it to dry up.

Floodplains and wetlands along rivers are also important areas for water storage as both surface and groundwater. We are cutting rivers off from their floodplains by increasing paved surfaces in the watershed and by directly channelizing rivers. This further removes the groundwater/surface water connection that is so important to a river's health.

The reasons that a drought was not declared for the state this summer are complex, but are based largely on the fact that western areas of the state had more rainfall than the rest of the state, and large reservoirs such as Quabbin were not significantly low. Many

factors are taken into account when determining a drought including rainfall, streamflow, groundwater levels and fire danger as well as water supply. If we have a dry winter with little spring snow pack, we may be in a drought next year. It is not clear yet whether the recent rainfall has sufficiently recharged levels of groundwater.

The role of municipalities

Local Water and Sewer boards in Massachusetts are in charge of water supply and conservation measures in each town. They often have established levels in both reservoirs and wells that trigger water bans. When a reservoir or water supply well gets to a certain point, water bans automatically go into effect for all municipal water users. Municipalities no longer have to ask DEP to declare a water emergency before implementing these measures. In some towns, this water ban is voluntary, and still others do not use water conservation measures at all.

Private well owners in watersheds such as the Ipswich River watershed are not affected by municipal water bans. Daniele Lantagne said, these water users "need to realize they are connected to the groundwater system." Education is the key to making everyone understand the connections between the water in the stream and the water in the ground. Water conservation is everyone's responsibility, since we are all connected to the same groundwater system.

In the next issue of the Riverways Newsletter, we will explore some of the planning initiatives being used around the state to deal with the issue of low flows and the threat to habitat. We will also look at some of the research being done to understand the important link between land use, river and groundwater flow, and habitat.

What You Can Do

Document river conditions by taking pictures, slides or video. Make sure to date the pictures, and to stand in the same spot on several dates with a recognizable landmark in the view. You can use these pictures to defend your local stream against development by having evidence that it is perennial, or that flows are being altered and the stream cannot handle more withdrawals.

Talk to your watershed Team Leader, and take them to see the river if it is dry. A dry river makes a strong statement.

Tell your Conservation Commission about the extent of the dry river – they can use this information for future management decisions.

Support healthy flows in your river by commenting on projects and permits within your watershed that will affect water flows.

Encourage the use of on-site treatment systems that allow for recharge of wastewater within the watershed.

Conserve water around the yard and in the house, and use cisterns to capture rainwater for reuse in the garden or yard.

Let your lawn go naturally brown and dormant in the summer – that's what it's supposed to do – it will revive in the fall.

Encourage your town to create water conservation measures and to implement summer outdoor watering bans.

Expect water supplies and wells to be low for several more months, and continue to use water sparingly.

June, 1999

Squannacook River, West Groton
Nashua River, East Pepperell
Assabet River, Maynard
Parker River, Byfield
Ipswich River, South Middleton
Charles River, Dover
Blackstone River, Northbridge
Ware River, Gibbs Crossing
East Branch Swift River, Hardwick
Quaboag River, West Brimfield

July, 1999

Wading River, Norton
Ware River, Gibbs Crossing

August, 1999

Ipswich River, South Middleton
Ware River, Gibbs Crossing
East Branch Swift River, Hardwick
Quaboag River, West Brimfield

Record lows for monthly mean stream discharges were set at several USGS stream gages in Massachusetts. The following record lows were recorded at USGS gages with at least 40 years of record, for the months of June, July and August. Many streams and rivers in Massachusetts do not have active real-time stream gages, and although they may have dried up or had record low streamflows, they were not included in the records.

Storm Water Enters a New Era: EPA's Storm Water Phase II Rule

Many more communities will have to follow the rules, the storm water rules that is, when the EPA's Phase II Proposed Rule is published in the Federal Register - probably this November. Phase II is an expansion of the Phase I Storm Water Program designed to reduce the pollution entering our waterways from unregulated sources associated with storm water discharges. The Storm Water Program can be considered a building block of the federal Clean Water Act, expanding on a program known as the National Pollution Discharge Elimination System, (commonly called NPDES).

For the past two decades the NPDES program focused on the regulation and permitting of point discharges of wastewater, from both wastewater treatment facilities and industrial dischargers. Unfortunately the EPA estimates that at least 40% of the nation's water bodies continue to be impaired by pollution despite the success of the point discharge controls instituted through the NPDES program. A serious contributor to this impairment is polluted runoff.

During storms, runoff picks up a host of pollutants ranging from oils and metals associated with vehicles, pesticides and nutrients from lawns, sediment from construction areas and roads as well as carelessly discarded trash. This pollutant laced storm water dumps into our waterways, often unabated and definitely unregulated. The EPA Storm Water Program's intent centers on reducing this pollutant load to help meet the Clean Water Act goal of fishable and swimmable waters throughout the country.

The initial foray into storm water abatement and regulation came in 1990. Medium and large municipalities, (referred to by the EPA as *MS4s* standing for municipal separate storm sewer systems) became subject to the NPDES program for their storm water discharges. To obtain a NPDES permit, the subject municipalities need to implement a storm water program. The only Massachusetts municipal systems categorized as medium/ large are Boston and Worcester. Municipalities are not the only entities included in this phase. Construction sites disturbing greater than 5 acres also fall under the jurisdiction of the NPDES Phase I Storm Water Program.

Despite its limited coverage, Phase I was a beginning. Phase II expands on the attempt to reduce storm water impacts by expanding

the Storm Water Program to include small municipal systems, many government entities such as transportation departments and military installations, construction sites disturbing greater than one acre and many other areas. The impact to Massachusetts will be substantial.

Given our high population density, this rule will effect many areas in the Commonwealth. Urban areas, defined by the national census as roughly those areas with populations of 50,000-100,000 or densities of 1,000+ people per acre, are subject to Phase II rules. Additional communities or geographical areas can also be included by the NPDES regulating body after a case-by-case review. The first cut of included Massachusetts communities is a long one and encompasses most of the coastal areas and larger cities in the state.

Phase II has a broader range and a different



Flooding on the Ipswich River at Sylvania Dam in Ipswich on October 22, 1996. Large amounts of run-off from the highly developed upper watershed contributed to the high levels of floodwater. Photo by Russ Cohen.

approach to regulating storm water. Phase II dischargers will be required to implement practices and controls to reduce pollutants in runoff to the "maximum extent practicable". There will be no numeric limits, which is the case in the existing NPDES permits, or individual NPDES permits issued to a storm water system. Instead, municipalities will apply for coverage under a "general permit".

This general permitting process requires Phase II permittees to institute reasonable best management practices and meet measurable goals. Their Storm Water Program must look at six specific program elements:

1. *Public education and outreach* to inform the public about the impacts of polluted storm water on water quality.

2. *Public participation* is required to provide opportunities for citizens to participate

and to encourage participation in program development and implementation.

3. A plan must be implemented to detect and *eliminate illicit discharges* that may be contributing domestic and other wastewater to a storm water system.

4. Communities will be charged with implementing and enforcing measures to deal with *erosion and sediment control* at construction sites greater than one acre.

5. The communities will also have to develop, implement, and enforce a program to deal with *post-construction runoff* from new and redeveloped areas. Controls must include preventive measures to protect wetlands and other sensitive areas.

6. *Good housekeeping*, especially *pollution prevention* measures are to be developed and implemented including training municipal staff about pollution prevention techniques.

The Phase II Proposed Rule for storm water should become effective in November with its publication in the *Federal Register*. From this date, those entities falling under the umbrella of covered dischargers would have 3 years and 90 days to apply for inclusion under a general NPDES permit.

The Phase II Program stresses a regional approach to storm water. The program specifically encourages partnerships and cooperation. Overlapping or multiple jurisdictions are inevitable. A city and a state department of transportation with roads through the community would both be designated operators and would be responsible for developing a storm

water plan. In a case like this, the two permittees would be encouraged to develop a unified plan to address the combined storm water flows from the two "separate" domains. Logically, the storm water program sees the need for all parties involved in storm water runoff control to join in a dedicated effort to reduce, if not eliminate, the water quality and habitat impacts of polluted storm water.

If you would like more information on the many fine points of the Phase II program, take a look at the EPA web page at www.epa.gov/owm/sw/about/index.htm or contact Cindy Del Papa at Riverways, 617-626-1645.

Urban Rivers Program Update

Riverways is very pleased to welcome Uma Mirani as an assistant to Maria Van Dusen for the Urban Rivers Program. Uma comes to us from working in Pittsburgh assisting volunteers in assessing water quality and developing a greenway along the Nine Mile Run. We look forward to her work with urban river advocates across the state and her assistance in evaluating the Urban Rivers Program as it plans for the next three years.

Uma will help us develop the initiative for "neighborhood greening of brownfields along rivers" that we began last year. Although proposed as a pilot project supported by DEP in the North Coastal watershed and on the radar screen of several legislators, it was not funded through the Watershed Initiative or the Riverways budget for FY2000. We will be seeking additional support for this initiative that will train urban communities in guiding development of green walkways along riverfront areas as part of the restoration of degraded sites.

Anne Livingston, our Urban Rivers Coordinator, and her husband Brendan have a new baby girl, Ciara, and have moved back to Seattle. We will miss Ann and her family, and wish them the best of luck in their new home.

Anne provided a kind of quiet leadership that drew on her understanding of people, an expertise in water quality and pollution prevention that she shared with citizens, municipal officials, and project proponents, and a very practical approach to helping community groups use the regulatory process to further protection or urban riverfront areas. Under Anne's patient, calm, can-do leadership the Urban Rivers Program became a recognized and appreciated resource. We wonder how long it will take for the City of Seattle to discover her and ask her to use her talents to assist in their initiatives to restore urban tributary streams during the year 2000!

Building the Urban River Network

During the three years Anne Livingston worked with Maria Van Dusen to develop services under the Urban Rivers Program, others were developing and strengthening related services. In April, the Urban Environmental Initiative under Lois Adams' leadership at EPA held a breakfast meeting to explore *Urban Rivers: How Can We Invest in These Vital Resources?* Maria Van Dusen moderated this meeting which brought together over 150 people who learned about:

- research and advocacy that has led to major changes in managing and revitalizing the Charles River,
- grassroots activism in Chelsea and the Greenspace Committee's successful campaigns to change the way the city and the community look at the waterways--Mill Creek, Chelsea Creek and the Island End River-- which surround Chelsea on three sides,
- health risks associations with urban rivers from the perspective of a toxicologist in the Office of Environmental Health Risk Assessment at the Rhode Island Department of Health, and
- restoration of the Woonasquatucket River in Providence as a catalyst for change in the inner city neighborhoods of Providence, RI.

During the discussion following the presentations, it was clear that a powerful, if informal, network of committed urban river advocates was already in existence. One of the questions that needs to be answered is how to best develop the venues for sharing the collective expertise and supporting each other in our separate endeavors to restore and revitalized urban rivers.

Another growing force for urban environmental protection is the Greater Boston Urban Resources Partnership (GB-URP). Riverways staff has been part of the development of this partnership over the last three years and Maria Van Dusen currently serves as the Co-Chair with Indira Balkisoon of EPA. The pilot project of GB-URP is being led by the Chelsea Creek Action Group, which is a coalition of three community groups. With GB-URP providing and leveraging funding and technical assistance, the Chelsea Creek Action Group has made strides on three fronts:

- restoring parklands and gaining greenway access along the riverfront on both sides of the river,
- increasing public awareness of the river and understanding of its problems and resources through environmental fairs, videos, protests, and numerous meetings, and
- getting businesses to reduce degrading impacts on the river.

Since 1997 the Partnership has distributed close to \$700,000 of seed funds from the USDA to local projects that improve the quality of urban life and range from canoe launches, urban gardens and urban orchards

to environmental education. More than \$325,000 in matching contributions was garnered for the projects.

In June, Secretary for the US Department of Agriculture Jim Lyons visited the Somerville Community Growing Center, a GB-URP supported project under the able direction of Lisa Brukilacchio. He found there a flourishing neighborhood garden, an educational workplace for high school projects, and a beautifully designed site integrating art forms, flowers, trees, and open areas. This two-acre site is a haven in the middle of a densely developed residential neighborhood.

Welcome Veronica Eady

The good news from the Executive Office of Environmental Affairs is that Veronica Eady has been hired by Secretary Bob Durand to take a leadership role in addressing environmental justice and brownfield redevelopment issues. Veronica spent the last year and a half as Director of Alternatives for Community and Environment (ACE) where she was instrumental in getting brownfields legislation passed, and where she worked on policies concerning environmental justice and transportation.

Veronica will take a leadership role in developing the next steps for the ad hoc state environmental justice group made up of staff at the Department of Environmental Protection, the Department of Environmental Management's Urban Forestry Program, the Conservation Services Urban Self-Help Program, and the Department of Housing and Community Development.

EPA did not award a state Environmental Justice Grant to Massachusetts. This grant would have been used to provide a community service person to assist the Arlington Street neighborhood in Methuen in the development of neighborhood parks along the Spicket River. The project would take place in areas where frequent flooding of houses has led to a federally funded project to buy and remove some of the damaged housing. The state inter-agency group will be meeting this fall to discuss alternative funding sources.

For more information on the Urban Rivers Program please contact Maria Van Dusen at 617-626-1540 or Uma Mirani at 617-626-1546.

Legislative Updates

Federal Legislative/Regulatory Update

First, a clarification of information about the **TEA-21** project selection process that appeared in the last Riverways Newsletter. Each Metropolitan Planning Organization [MPO, an entity similar or identical to the regional planning commission] develops a list of projects, called the Transportation Improvement Program (TIP), for a six-year horizon; all the MPO-approved regional TIPs are compiled into a state TIP (STIP). We also neglected to mention that the types of activities eligible for enhancement funding has been expanded in TEA-21 to include projects (such as underpasses) to reduce wildlife deaths caused by vehicles (i.e., roadkill). An extensive statewide inventory of current/potential bike paths is posted on the Web at <<http://www2.thecia.net/users/bcom/pub/facguide/index.htm>>.

The U.S. Environmental Protection Agency (EPA) recently proposed two new rules to expedite clean up of the nation's chronically polluted waters. These proposed rules, relating to the **Clean Water Act's** watershed restoration provision and **Total Maximum Daily Load (TMDL) Program**, attempt to make the sources of problem pollutants more accountable, while giving states clear and consistent direction in identifying and restoring polluted waters. Kari Dolan, of the National Wildlife Federation's Northeast Natural Resource Center, encourages clean water advocates to contact the EPA in support of the new rules (to help counter the expected opposition to the rules by polluters). In addition, Kari suggests that the EPA be requested to: (1) ensure that TMDL watershed restoration plans include implementation plans that are enforceable; (2) continue to prohibit the discharge of additional pollutants into already-polluted waterways; and (3) ensure that TMDLs protect endangered and threatened species, restore damaged fish and wildlife habitat, and restore low flows caused by dams and water withdrawals. Written comments should be sent by 12/22 to: Comment Clerk for the TMDL Program Rule, Water Docket (W-98-31), Comment Clerk for the NPDES/WQS, Water Docket (W-99-04), U.S.EPA, 401 M. St., S.W., Washington, DC 20460. Contact Kari at (802) 229-0650 or <dolan@nwf.org> for more information.

Pursuant to Congressional recognition of the steady decline of volunteerism as a result of legal liability exposure, Congress enacted

the **Federal Volunteer Protection Act of 1997**. The Act's primary purpose is to assist non-profit organizations in recruiting and maintaining volunteer support by limiting their exposure to lawsuits arising from the volunteer activity. The Act applies only for "qualifying organizations", i.e. an organization formed for charitable, civic, educational, religious, welfare or health purposes; or a tax-exempt organization; or a state or its subdivisions. The protected party must qualify as a "volunteer", i.e., the party may not receive compensation for his/her/its services (other than reasonable reimbursement or allowance for expenses actually incurred) or receive any gift in lieu of compensation exceeding \$500. A volunteer will enjoy protection only if he or she: 1) was acting within the volunteer's scope of responsibility; 2) was properly licensed or certified if licensing or certification is required; 3) did not engage in willful, criminal, reckless or grossly negligent conduct; or 4) did not cause an injury while operating a motor vehicle, vessel, aircraft or other vehicle requiring a license.

On August 17th, President Clinton signed the **Water Resources Development Act** (WRDA) that authorizes \$6.3 billion in U.S. Army Corps of Engineers flood control, navigation, shore protection and environmental restoration projects. The Act authorizes \$200 million (subject to appropriation) over five years beginning in 2001 for the "Challenge 21" Program, a pilot program for nonstructural flood control and riverine restoration. Additional information on the WRDA is available at <<http://www.house.gov/transportation/index.html>>

There are currently several bills before the U.S. Congress that seek to revitalize the **Land and Water Conservation Fund** (LWCF). Since its inception in the 1960s, the share of the LWCF allocated to Massachusetts has helped to fund quite a few state and local parkland acquisition and enhancement projects. The flow of LWCF to states was reduced to a trickle in the early 1980s and has since only partially recovered. "Resources 2000" (H.R. 798), sponsored by Cong. George Miller, and the "Conservation and Reinvestment Act" (CARA, H.R. 701), sponsored by Cong. Don Young, are the two leading LWCF-related bills being considered by the U.S. House of Representatives. Both bills would provide more stable funding for the LWCF and related programs through its current source (revenues from oil

and natural gas drilling on the outer continental shelf), but they differ somewhat in approach and implementation. It is hoped that a satisfactory compromise can be crafted between these two bills that can achieve passage in the House and subsequently in the Senate.

In the U.S. Senate, in addition to a Senate version of CARA (S. 25) and Resources 2000 (S.446), Sen. Joseph Lieberman recently filed a bill entitled "The Natural Resources Reinvestment Act of 1999" (NRRRA, S. 1573). The bill's purpose is to reinvest revenues from oil and gas production on outer continental shelf lands to establish a reliable source of funding for State, local and Federal efforts to conserve land and water, provide recreational opportunities, preserve historic resources, protect fish and wildlife, and preserve open and green spaces. Title I of the NRRRA would establish permanent funding for the LWCF (\$450 million each to Federal and State LWCF programs), plus \$100 million for UPARR (Urban Parks and Recreation Recovery Program) and \$150 million for the Historic Preservation Fund, all from outer continental shelf (OCS) oil and gas lease revenues. Title II would establish a \$900 million Environmental Stewardship Fund that is distributed to States for purposes of conserving, protecting, and restoring the environment, also permanently appropriated from OCS revenues.

Title III of S. 1573 would amend the Fish and Wildlife Conservation Act of 1980 to provide dedicated assistance to States for conservation of fish and wildlife, and to encourage implementation and coordination of comprehensive fish and wildlife conservation programs. A Fish and wildlife Conservation Fund is established with permanent, annual appropriations of \$250 million in OCS revenues. Funds are apportioned to states by formula weighted 33% by geographic area, and 66% based on population. No state may receive less than 1% or more than 5% of the Fund. Funding under this title is in addition to the Pittman-Robertson and Dingell-Johnson receipts.

Title IV of the NRRRA would amend Title III of the Federal Water Pollution Control Act to allow up to 10% of the State Revolving Loan Fund to be spent as 50% matching grants for open space acquisition to protect watersheds and water quality. The NRRRA would also amend current law to allow surface transportation and highway funding to be used for the purchase of open space and green corridors that mitigate transportation-related growth and development. Last but not least, the NRRRA would amend the Federal Agriculture Improvement and Reform

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Act of 1996 to allow State and Local conservation organizations to participate in the purchase of conservation easements for farmland protection.

S.1573 is strongly supported by **Americans for our Heritage and Recreation** [AHR, (202) 429-8444, <<http://www.ahrinfo.org>>] a coalition of environmental and other groups working to revitalize the LWCF. H.R.701/S.25 is strongly supported by **"Teaming With Wildlife"** [TWW, (202) 624-7890, <<http://www.teaming.org>>], a national campaign to "keep our common species common" and to nurture a new generation of wildlife stewards by securing funding for state-level non-game wildlife conservation, conservation education and wildlife-related recreation opportunities. The TWW coalition is comprised of over 3,000 organizations and businesses (at least 19 in Massachusetts). TWW originally proposed to fund its goals by extending the existing user fee on hunting and fishing gear to additional outdoor gear used by birders, hikers and other outdoor enthusiasts. After many years of building support for this funding, Congress responded to the TWW coalition's call for action by proposing to fund TWW's goals through OCS revenues. Title III of CARA proposes to allocate a percentage of OCS revenue (10% in H.R.701, 7% in S.25) to fund state-level wildlife conservation and related education and recreation. In Massachusetts, the estimated funding from Title III of CARA alone could range from \$6-8 million annually.

It is hoped that one or a combination of the foregoing bills are enacted by year's end to avoid getting mired in next year's election-related hubbub. AHR and TWW strongly encourage citizens to contact their Congressional representatives to urge them to act quickly and favorably on this legislation (and get local elected officials to do the same). For additional information, contact Jennifer Soper at the EOE Division of Conservation Services [(617) 626-1015], Marion Larson at the Mass. Division of Fisheries and Wildlife [(508) 792-7270 ext.111], or Eric Antebi at the Appalachian Mountain Club [(617) 523-0655]. In the meantime, Cong. Jim McGovern of Worcester was successful in getting \$30 million for the traditional LWCF state grants program incorporated into the current (FY00) Interior Appropriations bill.

State Legislative Update

In case you haven't heard, the **Community Preservation Act** (CPA, currently numbered Senate Bill 1988) passed the State Senate on Sept. 16th by a 35-0 margin! This

is the current version of statewide "land bank" enabling legislation that has been under consideration at the State House for more than a decade. The CPA would bestow upon cities and towns a powerful tool to help fight sprawl and shape their destinies by providing a local funding source for open space protection, historic preservation and affordable housing. It is estimated that up to \$190 million could be raised annually from full community participation in the CPA. The bill is expected to be debated on the House Floor sometime this fall. Contact the Community Preservation Coalition at (617) 725-0597 for up-to-date information and advice on how best to make your voice heard on this important legislation.

The **Sustainable Development Act** (H. 3135 and/or H.4095), sponsored by Rep. Douglas Petersen, was heard by the Joint Committee on Natural Resources on 9/22, and a revised bill received a favorable report on 9/28. The bill encourages communities to plan by providing funding and technical assistance. Plans will need to include goals and policies, specific elements including a natural resources inventory and watershed resources element, and an implementation element, i.e., what regulations and bylaws will need to be changed to implement the plan. Regional Planning Agencies (RPAs) will be responsible for developing regional policy plans that contain same elements as local plans; RPAs will have the option of including "desirable optional elements". Municipalities with approved plans will get prioritization for certain (yet to be determined) state grants. RPAs have the option of developing a review process and procedures, linked to MEPA, for developments of regional impact (DRIs), but it is not required and does not give RPAs regulatory or permitting authority. For more information, contact Nancy Goodman at the Environmental League of Massachusetts at (617) 742-2553.

The **Old Growth Forest Protection Bill** (S. 988), co-sponsored by Senator Andrea F. Nuciforo and Rep. Steven Kulik, would direct the Executive Office of Environmental Affairs to establish Old-

Growth Forest Reserves within publicly-owned land. The purpose of this legislation is to give additional protection to the relatively few small and scattered old-growth forest remnants in Massachusetts, plus establish old growth reserves over a greater range of locations, slopes and soil types than is currently the case. This legislation would provide a valuable and compatible counterpart to the active forest management taking place on most of the state's other public and private forestlands. The Joint Committee on

Natural Resources issued a favorable report on a revised version of the bill on Sept. 28. For more information, contact Heidi Roddis (Mass. Audubon) at (781) 259-9500 ext. 7260.

H. 2626 and S. 1511, An Act Relative to the Taxation of Forest, Farm and Recreation Land, would revise the **Current-Use Taxation Statutes, Mass. Gen. Laws, Chapters 61, 61A and 61B** and improve the effectiveness of these laws in preserving open space by improving their uniformity, clarifying the right-of-first-refusal process, and closing loopholes. Resulting from a year of negotiations among state agencies, landowner associations, land trusts and assessors, the text of this bill consists of revisions upon which there was widespread agreement. This bill appears to be stalled in the Taxation Committee. A related bill, **An Act Amending the Conservation Restriction and Agricultural Preservation Statutes**, would strengthen the ability of these laws to permanently protect farmland and other open space. Originally filed as H. 3118, an amended bill received a favorable committee report from the Committee on Natural Resources and Agriculture, and was renumbered H. 4505 on July 7. The bill is currently in the House Ways and Means Committee, where many other bills are competing for attention. Contact Wes Ward at The Trustees of Reservations at (978) 921-1944 for more information on either of these bills.

S. 1626, **An Act Relative to Tax Credits for Conservation**, would create a state income tax credit (up to 50% of the appraised fair market value of the gift, to a maximum of \$50,000) for permanent gifts of land or interests in land (conservation restrictions, e.g.) to public agencies and qualified private, nonprofit charitable organizations (land trusts, e.g.). This technique was explicitly mentioned in *The View From Borderland*, the October 1998 report of the Governor's Blue Ribbon Panel for Land Protection. Although Massachusetts does not provide for income tax deductions for charitable donations, current state law (M.G.L. Chapter 62 §6) provides income tax credits for a wide range of environmental activities. A similar law in North Carolina has preserved approximately \$12 worth of land for each \$1 lost in tax revenue. For more information, contact Phil Tabas at The Nature Conservancy at (617) 542-1908 ext. 227.

The so-called **"Article 97" or "No Net Loss" Bill** (H. 2046) was filed by Representative (now Senator) Pamela Resor in response to the growing number of situations where parkland and other publicly-owned open space is earmarked by communities for new schools and other development. "Ar-

ticle 97" approval (a two-thirds vote by the state legislature to allow the conversion) is routinely issued for such projects. H. 2046 would require that any such open space conversion not go forward unless: compensation of equal or greater value is paid for the land; the transfer does not destroy a unique or significant conservation resource; no feasible alternative exists; conservation resources on the transferred property are permanently protected; and the transfer does not violate any restrictions placed on the property by the landowner who sold or transferred land, or interest in the land, to the state. All funds received in compensation must be used to purchase additional conservation lands. In addition, information must be disclosed concerning the proposed new use and the reason for the transfer. H. 2046 sets a state goal of no net loss of Article 97 conservation lands; it enables a change in use of public lands but only as a last resort. The Joint Committee on Natural Resources issued a favorable report on a revised version of the bill on Sept. 28. Contact Sen. Resor's office [(617) 722-1120] or Jack Buckley at the Mass. Division of Fisheries and Wildlife [(617) 626-1572] for more information.

Last but not least, the **Water Resources Conservation And Efficiency Act** (described in the last Riverways Newsletter) received a favorable report from the Joint Committee on Natural Resources and Agriculture on September 28th. This bill (S. 1042 and H. 3124) would strengthen state and local water use efficiency/conservation programs, with a special initial focus on the stressed Ipswich River watershed. The bill also directs the UMass Water Resources Research Center to undertake research to determine the streamflows/water levels necessary to maintain healthy aquatic and other water-dependent organisms and ecosystems. This year's dry and hot weather, leading to a widespread water supply shortfall among human users as well as our native water-dependent flora and fauna, underscores the need for consumptive uses of water to be as efficient as possible. Call Lou Wagner at Mass. Audubon [(781) 259-9500] or Kerry Mackin of the Ipswich River Watershed Assoc. [(978) 887-8404] for additional information and advice on how best to make your views heard on this important legislation.

Resources & Grants

Grants

The **LEF Foundation** supports nonprofit organizations engaged in projects and services that promote a positive interchange between the arts and the natural and urban environment. Projects may include visual, media, performing and literary arts, public and environmental art, landscape and creative architecture, and design and interdisciplinary collaborations. \$348,000 was awarded in 1997, with grant amounts ranging from \$2-10,000. For more information, contact Martine Cherau, Program Officer, LEF Foundation, P.O. Box 382866, Cambridge, MA 02238-2866, (617) 492-5333, <<http://www.agmconnect.org/lef.html>>.

The **North American Wetlands Conservation Act** provides grant funding for public/private partnerships that develop and implement wetland conservation projects consistent with the North American Waterfowl Management Plan and other international migratory bird conservation agreements. Standard grants range in size from \$50,000 to \$1 million. Small Grants are also available, and the FY00 deadline (12/3) is fast approaching. Further information can be found on the Web at <<http://www.fws.gov/r9nawwo/nawcahp.html>> or by contacting Heather Poindexter or Dr. Keith Morehouse, North American Wetlands Conservation Council, U.S. Fish and Wildlife Service, 4401 N. Fairfax Dr., Rm 110, Arlington, VA 22203, (703) 358-1784, <r9arw_nawwo@mail.fws.gov>.

The Massachusetts Executive Office of Environmental Affairs (EOEA) has just posted a "Request for Responses" (RFR) for its **Watershed Stewardship Grants Program** on the "COMM PASS" Web site (<<http://www.comm-pass.com>>). Matching grants up to \$50,000.00 each are available for water quality and/or quantity enhancements, habitat protection/restoration, improved public access to and balanced use of waterways, improved local capacity to protect water resources, and other purposes consistent with the Open Space Bond (Chapter 15 of the Acts of 1996, the source of this funding). Eligible organizations include watershed associations, land trusts and other §501(c)(3) organizations, cities, towns and other local or regional governmental or planning agencies. Responses will be accepted until 1PM on Friday, 12/11/99. A total of \$200,000.00 will be awarded. Additional information is available by calling EOEA at (617) 626-1159.

Conservation and environmental non-profit organizations seeking to use **computer mapping (GIS) technology** can apply now for Conservation Technology Support Program (CTSP) grants of computers, software and training. Approximately 50 grant packages are available, using computers and printers donated by Hewlett Packard Company, and Geographic Information Systems (GIS) software by Environmental Systems Research Institute, Inc. (ESRI) and Clark Labs. Interested groups should review the application guidelines at <http://www.ctsp.org>. Applications are due January 7, 2000 and decisions will be made by mid-April 2000. To be considered, an organization must be U.S.-based and have tax exempt status. Check the news update link on the CTSP home page to get the latest information on software additions to the grant packages. For more information, contact: Amy Karon, CTSP: (415) 979-0343 x306; Charles Convis, ESRI: (909) 793-2853 x2488; or Forrest Whitt, Hewlett Packard: (208) 396-4018.

Services

Massachusetts Audubon Society (MAS)'s Center for Biological Conservation has a consulting service designed to make the ecological inventory and conservation management skills of the Society's staff available to towns, organizations, institutions and individuals. MAS' **Ecological Extension Service** was established in 1994 and expanded this past spring. The service is self-funding through project income. This past summer's projects included an ecological inventory and management plan for the Walden Woods Project in Concord, a wildlife habitat evaluation and interpretive plan for the Fruitlands Museum in Harvard, and a site assessment for the Lancaster Land Trust. For more information on this service, contact Jeffrey Collins at 781-259-9506 x7408.

Calendar

Early Peoples of the North River is the name of an exhibit at the South Shore Natural Science Center in Norwell. The Center is located on Jacobs Lane, off Route 123, and is open Monday - Saturday from 9:30 AM to 4:30 PM. The admission fee is \$2/adult, \$1/children and seniors. The exhibit features a large pen-and-ink drawing depicting a circa-4,000 B.C. autumn encampment along the North River, accompanied by a display of the Center's Lincoln Collection of Native American artifacts. Tool replicas, needles

Continues, next page

and skins for hands-on activity for both children and adults will also be included. The exhibit runs from September until the beginning of next year. Contact the Center at (781) 659-2559 for more information.

The Mass. DEP will be holding four **Rivers Protection Act workshops** in November. These 2.5 hour workshops will provide an overview of the Riverfront Area regulations, plus give participants an opportunity to work together on case studies using scaled plans and supporting materials. These case studies have been drawn from real projects and will help participants address issues in their own communities, such as: perennial vs. intermittent streams; "practicable and substantially equivalent alternatives"; meeting the "no significant impact" criteria; restoration and mitigation; etc. The workshops will be held in Northampton on 11/3, Lakeville on 11/4, West Boylston on 11/16 and Wilmington on 11/18. For more information and directions, see DEP's web page at <www.magnet.state.ma.us/dep/calendar.htm> or call Alex Gagnon at (617) 556-1094.

The **Mass. Department of Fisheries, Wildlife & Environmental Law Enforcement** (DFWELE) will be hosting a "State House Day" on Monday, November 15th from 10AM to 2PM in the Great Hall. The event will include interactive exhibits and displays prepared by the Division of Marine Fisheries the Natural Heritage and Endangered Species Program and other DFWELE programs (including Riverways). Although the primary audience for the event is expected to be state legislators and other workers at the State House, the public is also invited to attend and learn more about what various DFWELE programs are up to. For more information, contact Bob Greco at (617) 626-1556.

To celebrate the unique resources in our cities and towns, EOEa Secretary Bob Durand is hosting a **Community Preservation Day** on **Wednesday, December 8th**, from 11:30AM to 2:00 PM, at the Great Hall in the State House. Communities are encouraged to identify and submit photographs of open space, historic structures and/or landscapes, and the like that are worthy and needful of protection through the CPA. To RSVP or for more information about this event, contact Cindy Cormier at (617) 626-1166 or <cynthia.cormier@state.ma.us>.

The River Management Society and The Northeast Watershed Roundtable are sponsoring an interactive one-day "**Ask the Experts**" **Instream Flow workshop** to be held on Wednesday, January 19, 2000, 8:30AM-4:30PM, in Concord, NH. The workshop will open with an ecological overview from

Brian Richter, Director of Freshwater Initiative, The Nature Conservancy, and followed by informal working sessions. If you are interested in attending and/or have an issue or question you want to submit for the workshop, contact Rebecca Waugh at the National Park Service [(617) 223-5200 ext. 1257 or <rebeccawaugh@hotmail.com>]. The registration deadline is the beginning of December.

Water Sensitive Ecological Planning and Design is the name of a symposium sponsored by Harvard's Graduate School of Design's Department of Landscape Architecture. Scheduled for February 25-26, 2000 in Cambridge, this symposium will explore novel approaches and case studies for water-sensitive development, design and policy ranging from parking lots to whole watersheds. The early-bird registration rate of \$250 expires on 12/15. For more information, contact Prof. Robert France at (617) 496-0915 or <rfrance@gsd.harvard.edu>.

The River Management Society (RMS), a national non-profit professional society dedicated to the protection and management of North America's river resources is holding its fifth biennial symposium on river management and planning in Charleston, South Carolina on April 19-22, 2000. The title of the symposium is **Blending Art & Science in River Management**, and it will feature presentations on using art as a conservation and management tool. Many topics in river management will be discussed, and pre- and post- symposium trips will be scheduled.

The National Water Quality Monitoring Council (NWQMC) is sponsoring a nationwide conference entitled **Monitoring for the Millennium**, to be held in Austin, TX from April 25-27, 2000. Additional information is available via e-mail (<jeff@gwpc.site.net>), telephone (405-516-4972), or on the Web at <<http://nwqmc.site.net>>.

The Water Environment Federation (WEF) is sponsoring a conference entitled **Watershed 2000**, to be held from July 9-12 in Vancouver, British Columbia, Canada. Contact WEF, (800) 666-0206, (703) 684-2452, <mse@wef.org> or visit <http://www.wef.org/docs/WATERSHED_2000.htm> for more information.

Last but not least, the American Water Resources Association will be hosting a conference entitled **Riparian Ecology and Management in Multi-Land Use Watersheds**, to take place from August 27-30, 2000 in Portland, OR. For more information, contact the AWRA at 950 Herndon Pkwy., Ste.300, Herndon, VA 20170, (703) 904-1225, <awrahq@aol.com> or check its web site at <<http://www.awra.org>>.

Additional watershed-related events and workshops are posted on the EPA's Web site at <<http://www.epa.gov/OWOW/watershed/wacademy/catalog.html>>. For those without access to the Internet, you can obtain a free copy of the "Inventory of Watershed Training Courses" by calling NCEPI at (800) 490-9198.

Books and Reports

The *Clean Water Act Owner's Manual: The Essential Guide for Any Clean Water Advocate* (160pp.), published by **River Network**, is a comprehensive sourcebook for people who want to clean up their rivers, streams and watersheds. This down-to-earth, information-packed book explains crucial sections of the Clean Water Act, points out how to get involved in regulatory decisions, and tells the stories of others who've done so. Filled with references, web sites and other resources, this manual turns legalese and scientific terminology into language you can use. Whether you're a concerned neighbor or a veteran activist, you'll want a copy of *The Clean Water Act: An Owner's Manual* on your bookshelf. To order, please call Gayle Killam at the River Network's Portland, Oregon office: (503) 241-3506 x 46, or order on-line at <<http://www.teleport.com/~rivernet/rnpublic.htm#CWA>>.

The U.S. Geological Survey recently released a report summarizing its findings on the effects of nutrients and pesticides on water quality in 20 of the country's largest river basins. The report summarizes data from the National Water Quality Assessment Program. The report concludes that the widespread occurrence of nutrients and pesticides in the nation's waters, often in complex mixtures, raises concerns about impacts on human health and risks to aquatic life. The USGS also notes that the current standards and guidelines for assessing risks are not adequate to deal with the complex mix of pesticides and nutrients found in some of the nation's waters. The report, *The Quality of Our Nation's Waters, Nutrients and Pesticides*, published as USGS circular 1225 is available on the World Wide Web as .pdf files at <<http://water.usgs.gov/pubs/circ/circ1225/>> or in printed form (single copies of the report are at no cost) from: Branch of Information Services, P.O. Box 25286, Denver, CO 80225, or by fax request to 303-202-4693. Please specify USGS report C-1225.

Parks, open space and farmland contribute billions of dollars to local economies each year, according to a report recently issued by the Trust for Public Land. *The Economic Benefits of Parks and Open Space* details success stories from Chattanooga to Portland where local communities have seen the

"profit" from conserving their land. Owners of small companies ranked the presence of recreational facilities, parks and open space as the most important factor in choosing a new location for their business. This report can be ordered or downloaded from the Web at <<http://www.tpl.org>> or by calling (800) 714-5263.

Rivers Restore, cont. from page 1

of Marine Fisheries, and services from the National Marine Fisheries Service and Natural Resources Conservation Service.

The Housatonic Valley Association has applied for funding from the National Fish and Wildlife Foundation to assist in implementing the Crane and Company project, and the EOEa Watershed Team is working with the City of Pittsfield to address protection of their upstream water line.

Triage Team

The Triage Team is an interdisciplinary group of agency staff, including engineers, wetland ecologists and fisheries biologists. The team was organized in September at the suggestion of the Department of Environmental Management's Office of Dam Safety. This team will evaluate unsafe dams to compare the feasibility of repair versus removal options.

With over 3000 dams in the Massachusetts database, the task of identifying potential removal candidates can be daunting. Ongoing projects and interest have developed in the Connecticut, Blackstone, Chicopee and Taunton River watersheds for developing checklists and criteria to use in evaluating dams for fish passage and/or removal.

River Recovery

While controlled breaches are certainly the preferred method of opening up previously impounded river reaches, the uncontrolled breach of a dam on the Falls River in Bernardston during the rains of Hurricane Floyd has left spectacular Atlantic Salmon habitat in its wake.

The river has already scoured conglomerate sandstone bedrock walls and carved a new channel among gravel and cobble, making this reach now suitable for stocking Atlantic Salmon fry. River Restore is working with the local Conservation Commission to identify area college students to help study the physical and biological changes that take place over the coming year.

For more information or to request a fact sheet, contact Karen Pelto, River Restore Coordinator, at 617-626-1542.

Rivers Month 2000, cont. from page 1

or join one.

- Walk, talk, cleanup rivers and streams in every watershed - Invite the YMCA, the Rotary, elders, church groups, schools, legislators, bikers, chambers of commerce, the folks next door.

- Survey conditions along your neighborhood stream - Know your watershed.
- Find out about the water in your lake - Join the Great Sechhi Dip-in.

- Identify and map locations of special habitats, birds and animals in your town -

- Join EOEa's resource protection effort of species identification.

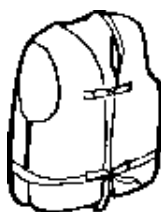
- Add your events to the listings in the Rivers Month Calendar - Send info. to the Riverways Programs at 100 Cambridge St. Boston, MA 02202 by April 30, 2000.

- Get your river stories in the press - Ask Riverways for a Rivers 2000 press package.

- Enjoy and celebrate our rivers and streams - Go fishing, paddle a canoe on a quiet river, listen to a waterfall, invite a neighbor to hike and picnic along a special stream.

Rivers 2000 is an idea put to action through the seven chapters of the River Management Society, a national organization whose mission is to protect, conserve and manage river resources through sharing information and state-of-art techniques with river professionals, river activists, governments, industries and landowners. Rivers 2000 is also supported by RiverNetwork and American Rivers and its Canadian affiliated River Management Society.

For more information go to www.rivers2000.org or contact Maria Van Dusen, president of the Northeast Chapter of the River Management Society, at Maria.Van.Dusen@state.ma.us.



Don't Forget the Life Jackets!

Canoeists and kayakers are required by law to wear a life jacket at all times underway, from September 15 to May 15 of each year. Now is the time to make sure you are wearing, not just carrying, life jackets while enjoying the state's waterways.

Our Mission

The Mission of the Riverways Programs is to promote the restoration and protection of the ecological integrity of the Commonwealth's rivers and adjacent lands. Recognizing the uniquely important role of rivers in the state's ecology, the Department initiated the Riverways Programs in 1987.

Riverways Programs 617-626-1540

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Joan C. Kimball,
Adopt-A-Stream Coordinator
626-1544

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**Department of Fisheries, Wildlife &
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www.state.ma.us/dfwele/river/riv_toc.htm

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Members of the Shawsheen River Watershed Team enjoying a canoe trip on the Shawsheen River.

On-line Resources

The following is an update on resources available on the Internet – some may be familiar, some may be new. From the EPA to Clean Water Action, these updates will help take some of the tangle out of finding the information you need quickly on the Web. We often give updates on new additions to sites you are already familiar with, to keep you up to date on what's going on. If you have a favorite web site, let us know. Also check both the Riverways and Adopt-A-Stream web pages for hot links to your favorite organizations.

The Clinton-Gore Administration recently unveiled **Livable Communities** <<http://www.livablecommunities.gov>>, its new web-based, "smart growth" tools and resources kit for combating sprawl, protecting open space, reclaiming brownfields, enhancing water resources and the like. Livable Communities is a electronic source of federal expertise to help citizens ensure a high quality of life and a strong local economy. It streamlines information on federal grant and technical assistance programs, provides examples of how to use these programs to achieve community goals, and contact information for key individuals.

Water News is a weekly on-line "listserv" journal that announces publications, policies and activities of the EPA's Office of Water. To subscribe, send an e-mail message, leaving the subject line blank, and address it to <listserv@unixmail.rtpnc.epa.gov>. In the body of the message write the words "Subscribe waternews [your] firstname lastname" (e.g. Subscribe waternews Robert Jones). Contact Gloria Posey at <Posey.Gloria@epa.gov> for more information. Current/back issues of Water News are also available on the Web at <<http://www.epa.gov/ow/waternews>>.

Information on **fish consumption advisories**, along with a brochure (available in English, Spanish, and Hmong) that describes how to safely consume fish and minimize exposure to contaminated fish is available from the EPA at <<http://www.epa.gov/OST/fish>>. You can also use this page to access fact sheets summarizing the latest research on the dangers of eating fish contaminated with mercury and/or PCBs.

EPA's **Adopt-a-Watershed** campaign is designed to promote and recruit volunteers to work on river and watershed-related projects. A catalog of groups currently seeking and/or utilizing volunteers for river/watershed projects is posted at <<http://www.epa.gov/surf/adopt>>. A major focus of this effort is to encourage groups such as Parent-Teacher Associations, churches, 4-H clubs, boy and girl scouts, civic organizations and others to join existing watershed efforts. Groups looking for volunteers (and vice versa) are encouraged to visit this site.

Watershare [<<http://www.watershare.usbr.gov>>], sponsored by the U.S. Bureau of Reclamation, provides information rang-

ing from local water conservation programs and interactive kids activities to lesson plans designed for teachers.

Massachusetts' **EOEA Watershed Initiative** will soon be upgrading its web pages with new photos and a separate page on each of the state's twenty watershed teams and their respective watersheds. You should be able to access the watershed page from EOEA's home page <<http://www.state.ma.us/envir>>.

Non-government on-line resources

American Rivers <<http://amrivers.org>>

New features at this site include *River Currents*, daily, up-to-the-minute news of river issues occurring across the country; *River Policy*, a weekly look at what's happening within Congress and the Administration that could affect the health of our nation's rivers; a *Corps of Engineers Reform* page (see below); a *American Heritage Rivers Initiative* update page; and Kids and Members Corners pages, with access to an on-line newsletter, downloadable screen savers and video clips of river scenes, opportunities to win river-related trips and merchandise, etc. American Rivers recently launched a new listserv designed to help conservation groups working with the U.S. Army Corps of Engineers to restore rivers and streams. Weekly updates will be provided on Corps habitat restoration activities around the nation, including case studies, information on Corps authorities, and potential funding sources. If you and/or your group would like to join and/or post information to this listserv or the related web page, contact Suzy McDowell at <smcdowell@amrivers.org>.

American Whitewater <<http://www.awa.org>>

Founded in 1957, American Whitewater [(301) 589-9453] works on a wide variety of river-related topics such as state/federal Wild and Scenic River designations and FERC hydropower relicensing as well as maintaining a national index (called the Nationwide Whitewater Inventory) of whitewater river segments. A key aspect of AWA's work is to protect and enhance access to whitewater paddling opportunities. Jason Robertson, AWA's Access Director, and John Gangemi, AWA's Conservation Director, also get involved with river issues relating to recreational carrying capacity, floods and instream

flows, landowner/water rights issues, river use surveys and recreational economic surveys, water quality, and river/watershed management plans. The AWA's membership is composed of 8,000 individual whitewater boating enthusiasts and more than 180 local canoe club affiliates, representing approximately 80,000 whitewater paddlers.

Appalachian Mountain Club's Conservation Action Network <<http://www.outdoors.org/Conservation>>

AMC's conservation department has recently introduced a new electronic network designed to make it easy to get informed and stay up-to-date and active about river protection/restoration/recreation and other Northeast environmental issues. Sign up and receive monthly e-mails that update you with current conservation highlights and tell you what you can do to help. Use the web site's "Act Now" pages to personalize sample letters about important conservation issues. Then choose the Congressional member(s) you want to send your letter to, and your letter will be sent with just a click of your mouse.

Bay Circuit Alliance (BCA) <<http://www.serve.com/baycircuit>>

Led by the indefatigable Alan French, BCA [(978) 470-1982] is the lead organization working to complete the **Bay Circuit Trail**, a 100+ mile trail network linking open spaces in a more-or-less "C"-shaped corridor running from Plum Island Sound to Duxbury Bay. Many of the trail segments run along rivers and streams.

Bluewater Network <<http://earthisland.org/bw/bwnhome.shtml>>

Bluewater Network [(415) 788-3666], a project of the San Francisco-based Earth Island Institute, is a coalition of scientists, concerned citizens, industry experts and clean water advocates working to reduce the environmental impacts of vehicles, vessels and craft, most notably personal watercraft (a.k.a. "jet skis"). Additional info related to jet ski use in national parks and seashores can be found at <<http://www.npca.org/whatwedo/pwc.html>>.

Center for Watershed Protection (CWP) <<http://www.cwp.org>>

This Maryland-based group, headed by stormwater guru Tom Schueler, has recently spiffed up its website. CWP recently produced a *Watershed Leadership Kit*, designed to help community leaders, watershed managers, educators and activists with materials to craft their own watershed protection seminars. CWP's web site also includes a schedule of upcoming workshops as well as selected articles from *Watershed Protection Techniques*, CWP's highly respected periodical covering all aspects of urban watershed restoration.

Clean Water Action (CWA)

<<http://cleanwateraction.org>>

This nationwide, grassroots organization seeks to empower citizens and mobilize public support for air and water pollution prevention and cleanup. CWA's Massachusetts chapter (called the CWA Alliance) has taken a leading role in seeking to reduce pollution coming from existing and/or proposed incinerators, landfills and power plants and promoting increased recycling and energy conservation as viable alternatives. The Alliance's two offices are located in Boston [Cindy Luppi, (617) 423-4661, <bostoncwa@cleanwater.org>] and in Northampton [Chris Bathurst, (413) 584-9830, <nohocwa@cleanwater.org>].

Clean Water Network (CWN)

<<http://www.cwn.org>>

CWN [(202) 289-2395] is an alliance of more than 1,000 organizations that endorse its platform paper, the *National Agenda for Clean Water*, which outlines the need for strong clean water safeguards to protect human health and the environment. CWN includes a variety of organizations representing environmentalists, family farmers, recreational anglers, commercial fishermen, surfers, boaters, faith communities, environmental justice advocates, labor unions and civic associations. CWN's website is chock-full of information such as existing/proposed federal laws, regulations and programs affecting water quality, links to other relevant sites, and clean water-related job and advocacy opportunities.

Environmental Careers Organization

(ECO) <<http://www.eco.org>>

Based in Boston, ECO [(617) 426-4375] is a nationwide networking and support center for current and prospective environmental interns and career employees and environment-related job opportunities. It recently issued an updated version of its book entitled *The Complete Guide to Environmental Careers in the 21st Century*, published by Island Press. ECO also sponsors an annual **National Environmental Career Conference**, which was held this year on October 22-23 in Hartford, CT.

Environmental Federation of New England (EFNE)

<<http://www.GreenForNewEngland.org>>

EFNE [(617) 542-3363] is an association of nonprofit environmental groups headquartered and/or active in New England that have joined forces to create an environmental workplace giving opportunity similar to what the United Way offers for social service programs. Massachusetts-based river/watershed groups belonging to EFNE include the Charles River Watershed Association, the Connecticut River Watershed Council and the Merrimack River Watershed Council.

Environmental League of Massachusetts (ELM)

<<http://www.environmentalleague.org>>

ELM's web pages provide details on pending state environmental legislation such as the Community Preservation Act, as well as on its annual **Green Budget**, ELM's effort to safeguard adequate funding for state environmental agencies and programs. The page also includes information on and for the **Environmental Collaborative**, a statewide coalition of environmental groups acting in partnership with ELM to work on state environmental legislation and other projects of mutual interest, and **EnviroAction**, ELM's electronic activist network.

Land Trust Alliance (LTA)

<<http://www.lta.org>>

The LTA [(202) 638-4725] is the nation's primary nonprofit support and service center for private nonprofit local and regional land conservation organizations. LTA's extensive web page provides information on current/pending federal policy and legislation relating to land conservation, charitable contributions and the like, land trust/conservation conferences and workshops, land trust job opportunities and links to and for land trusts as well as advice for landowners wishing to protect their own lands.

Mass. Association of Conservation Commissions (MACC)

<<http://www.maccweb.org>>

The MACC's new Web site, scheduled to go on-line by the end of October, will provide links to individual commission Web pages as well as to local and state environmental organizations and agencies. It will also provide action alerts for upcoming hearings or pending action on proposed laws and regulations, a calendar of MACC programs and events, and an on-line version of MACC's Publications Catalog. Last but not least, MACC will soon be launching *Conservation Connections*, a moderated on-line news group that will enable conservation commissioners and others to communicate with each other about open space, wetlands and other topics. Contact the MACC at (617) 489-3930 or <macc1@ma.ultranet.com> for more information.

Mass. Sportsmen's Council (MSC)

<<http://members.tripod.com/macouncil/msc02.html>>

Recent additions at MSC's web page include freshwater sportfishing information such as when, where and what types of game fish are stocked (released) into Massachusetts rivers and other waterways.

Mass. Watershed Coalition (MWC)

<<http://www.ultranet.com/~mwc/index.html>>

The MWC [(508) 534-0379] is a statewide coalition of river and watershed groups and

other rivers enthusiasts. MWC's recently updated Web page provides information on river/watershed-related services, conferences, events, job and grant opportunities, etc. The MWC also sends out an informative weekly on-line "*E-News*" and occasional alerts to its listserv; to subscribe, send an e-mail message to <majordomo@igc.org>, leave the subject line blank and write "subscribe mwc-list" in the body of the message.

National Institute/National Library for the Environment

<<http://www.cnie.org>>

This website offers straightforward and unbiased information on a wide variety of environmental issues. Its major purpose is to promote the use and value of scientific research in environmental policy and decisionmaking.

Natural Resources Defense Council

(NRDC) <<http://www.nrdc.org/nrdcpro/storm/stoinx.html>>

This URL (Web address) will take you to an on-line version of a new NRDC report entitled *Stormwater Strategies: Community Responses to Runoff Pollution*. This report documents more than 150 examples of successful, cost-effective techniques for reducing polluted runoff. NRDC is also arranging meetings and workshops with local officials and activists; if your organization and/or community is grappling with stormwater issues and would like to involve the NRDC in your effort, or to get a printed copy of *Stormwater Strategies*, contact George Aponte Clarke at (212) 727-2700.

Rails-to-Trails Conservancy (RTC)

<<http://www.railtrails.org>>

New features at RTC's website include a series of fact sheets on various aspects of rail trail development, such as liability issues, the economic impacts of rail trails, and the top ten ways to work with rail trail opponents. Last but not least, RTC and The Conservation Fund (see below) have recently co-launched a new **Trails and Greenways listserv**. This on-line service enables trails and greenway enthusiasts to ask questions, share ideas and solutions, post information about successful projects, job opportunities, upcoming events, etc. To subscribe to this list, send an empty e-mail message to <trailsandgreenwayssubscribe@egroups.com>.

The Conservation Fund (TCF)

<<http://www.conservationfund.org>>

Newly updated, TCF's website includes information on its American Greenways Program, the DuPont Greenways small grants program, the Freshwater Institute (rural aquaculture, wetlands restoration, etc.), and various case studies on GIS, wildlife corridor protection and related topics, as well as an on-line version of its *Common Ground* newsletter.